SCIRT Rebuilding Infrastructure

LEARNING LEGACY

Lessons learned from one of New Zealand's most challenging civil engineering projects: rebuilding the earthquake damaged pipes, roads, bridges and retaining walls in the city of Christchurch 2011 - 2016.

Dewatering 101: A process to lower groundwater

Story: Dewatering

Theme: Construction

A poster which outlines the dewatering process.

This document has been provided as an example of a tool that might be useful for other organisations undertaking complex disaster recovery or infrastructure rebuild programmes.

For more information about this document, visit www.scirtlearninglegacy.org.nz

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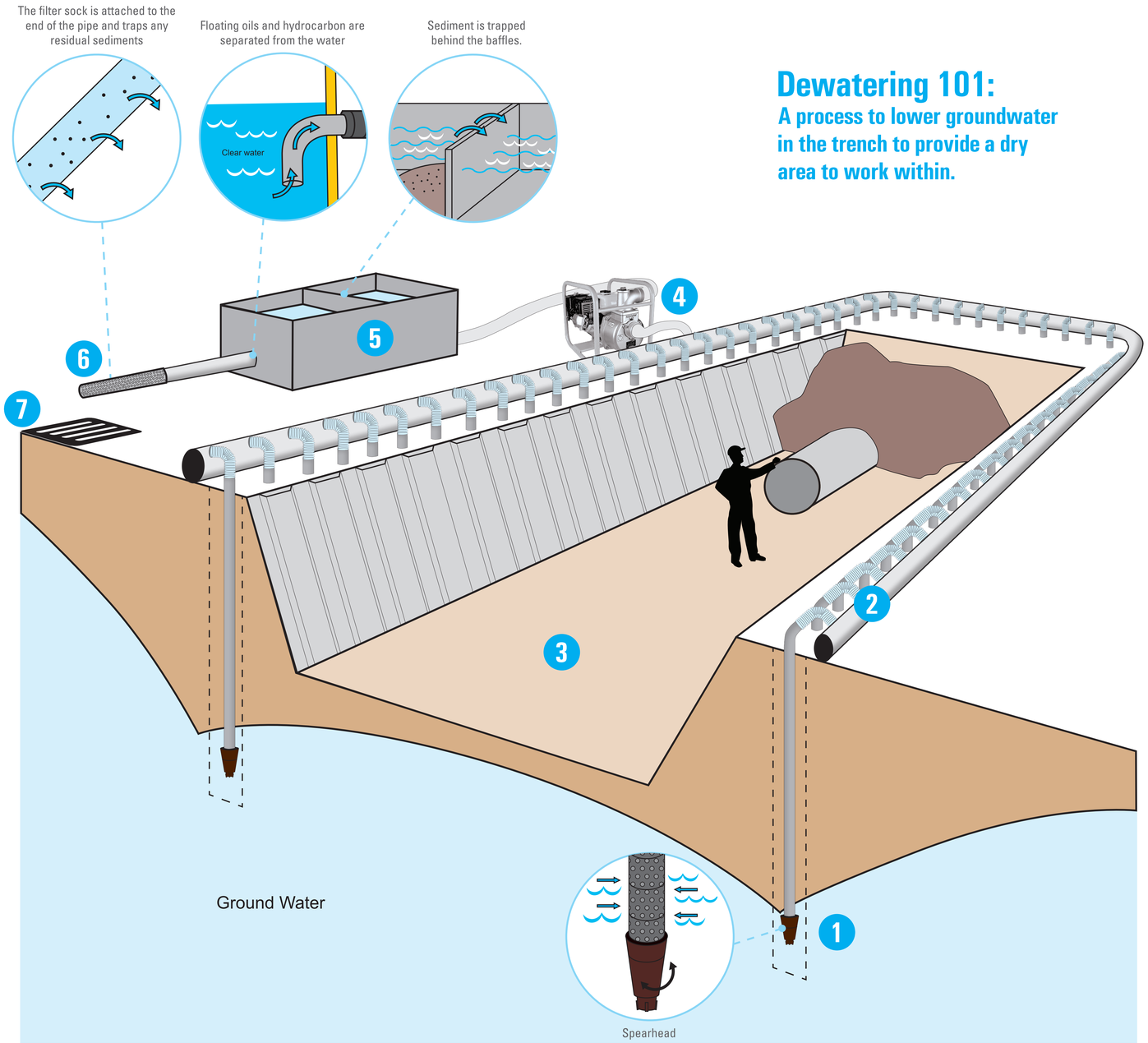
DEWATERING 101

PRESSURE MAIN 11: *From pump station to treatment plant*



Dewatering 101:

A process to lower groundwater in the trench to provide a dry area to work within.

1 The ends of the wellpoints or spears have micro-holes to suck up groundwater.

2 The transparent connecting pipes allow to check the water turbidity pumped from the well points to the header pipe.

3 Trenches range from 1.5 metres to 4 metres deep. Groundwater in Christchurch is found at varying depths but mostly from around 1.5 metres.

4 Pumps sometimes run 24/7, which is why they are designed to be as quiet as possible. This one has an additional sound box for added insulation.

5 Separator tanks have baffles to trap sediment. Baffles are panels inside the tank which block water flows, helping large particles settle at the bottom.

6 The filter sock, running along the gutter, continues to screen out small particles from the sediment tank and let clean water seep out to the stormwater outlet.

7 This is called a witch's hat. It is black filter fabric placed in the stormwater sump to catch sediment running in from the kerb.

8 SCIRT's environmental team regularly tests the discharge water from the tanks (left jar) by comparing them to an acceptable standard (right jar). They also check alkalinity or acidity with the pH indicator paper.

SCIRT
Rebuilding Infrastructure

SCIRT is the team that is rebuilding publicly owned earthquake damaged roads, fresh water, wastewater and stormwater pipes in Christchurch, from 2011 to 2016.

If you have any questions about this project contact the Downer team on ***0800 400 310***

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